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TYPHOID FEVER SOMETIMES CONTAGIOUS.

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EARLY in September, 1805, I took lodgings in the south parish of Ipswich, then called Chebacco, now the township of Essex, in Essex County, Mass., with a view to commence the practice of Medicine. At that time there was not, I believe, in the whole parish a single case of serious disease; nothing but some few chronic ailments with old people. One old lady, I recollect, who kept her head covered with, I think, six coverings of substantial cloth to keep the cold out; with whom advice from the doctor, with a pinch of chamomile flowers and another of valerian root, was always very welcome. One of the first professional applications I had, was for a plaster for a sore leg, and I well recollect the solicitude expressed by a gentleman of the place, a good friend of mine, who was present at the time and saw me apply the plaster *secundum artem*. After the patient was gone, he suggested, in the kindest manner, his serious apprehension that I should never be able to establish myself in that parish if I commenced with so high charges. I had charged and received *twenty cents*.

In December, I think it was, of the same year, a young married woman, whose husband was at sea, was brought sick to Chebacco, from a parish in Gloucester five or six miles distant, to be taken care of by her mother, who was very poor and had no female to help her. I was called and left some alterative medicine, to be followed by small doses of calomel at such intervals as the bowels would retain. It was an object with me to get the gums sore, having been taught in medical lectures that if a mercurial tenderness of the gums could be effected the patient would recover; and as the nursing was very imperfect, and the patient getting worse, I went early one day and remained four or five hours, chiefly to see that the medicine should not be neglected. I had no dinner that day, and as I stood by the bedside, an intensely nauseating and oppressive

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smell made an impression at the pit of my stomach, which lasted about two hours, and which it seems to me I can never forget.

The day but one following, I had a chill, and at evening my pulse was 120. I took an aloetic cathartic, with five or six grains of calomel. From its operation I felt so much relief, that the day following I mounted my horse and rode to visit my patient, two miles distant. But I had to encounter on my return a storm of sleet driven by an ocean wind, which seemed to blow through me as through a basket. I went to my lodgings, took my bed, and did not leave my chamber for six weeks. My fever lasted twenty days, at which time there was an abatement. I had delirium, but in a less degree than my patient. For many days I was so deaf as to be scarcely able to hear the church bell, although it was very near. During several days, I had distorted vision. The wall of the chamber on my left, as I lay upon my back, seemed to lean over the bed at an angle of 12 or 15 degrees. My recollection of this is still vivid. It was not one of the creations of delirium; I regarded it then, as I do now, as the result of a morbid impression on the brain or nerves from the fever.

My friend, Dr. G. Osgood, was my physician. He came as an adventurer into the township of Hamilton, four miles distant, about the time that I entered the parish of Chebacco. He was very attentive and kind, visiting me daily, and twice passed the night in my chamber, sleeping at intervals on a couch upon the floor between my bed and the fire.

About the time that I became convalescent, my physician, Dr. O., was taken with fever, which lasted two weeks. During his convalescence, his nurse, Mrs. Roberts, had an attack of fever, which continued about ten days. Two children of the family in which I was sick, one of 7 or 8, the other of 9 or 10 years, for whom I had a strong partiality, came into my chamber almost every morning to ask how I did, and each of them had a mild fever of nine or ten days continuance. These were all the cases that occurred at Chebacco and Hamilton, where there had not been a case of fever for a long time. My own case was the worst after that of my patient.

Whether a mercurial tenderness of the mouth took place in either instance, I am unable to affirm, but I am inclined to the opinion that it did not. My patient died in about two weeks after she was brought sick into our parish; and as I left, as soon as I was able, for a lengthened absence in the country, I never learned many reliable particulars of her case which occurred after my last visit. Within three years after I commenced practice, I learned from observation that a mercurial tenderness of the gums is no sure presage of recovery from typhoid fever. I lost a patient of this description in a neighboring township.

From Dr. Amos Twitchell, one of the most talented physicians ever reared in New Hampshire, I received, substantially, the following statement. Deacon Hilliard, a resident of Cambridge, Mass.,

on his way home from Montreal, where typhoid fever at that time prevailed, was much indisposed on his arrival at Keene, where Dr. T. resided, put up at the principal hotel, and sent for the Doctor. He found Mr. H. laboring under typhoid symptoms. He was very sick for many days (how many I do not remember), was well cared for, and ultimately recovered. There was not a case of fever in Keene when Deacon H. came to the hotel. Eight cases followed, all of them among those who had given attention to the sick man in way of nursing or night watching. Some of those who attended upon the sick had the fever. Dr. T. assured me that he had satisfactory information of about sixty cases in all, which might be traced, either immediately or remotely, to Deacon Hilliard's chamber.

Continued fever, either in summer or autumn, was not a very uncommon occurrence in the village at Hanover, N. H., during my residence there of twenty-four years, from October, 1814. Dr. Nathan Smith, the founder of the Medical School at Dartmouth College, called the cases *typhus fever*, the distinctive marks of *typhus* and *typhoid* not having been well made out till after his time. Effluvia arising from the decomposition of vegetable matter seem to have originated typhoid fever in that region. In a small village on the Vermont side of Connecticut River, eight or ten miles from Hanover, a fever occurred with several individuals of a family. Dr. Smith was consulted, and on making investigation for a local origin, found in the cellar a large quantity of rotten cabbage. He had it all removed immediately, and the sickness ere long subsided—it did not spread among the neighbors.

I remember to have been called to a family two or three miles from the Connecticut River, on the Vermont side, where I think were three persons in one house sick with fever—all of whom were taken about the same time. It was spring; a potato hole had been recently opened, which contained a large mass of that vegetable in a rotten state. On the day it was opened a south wind blew strongly over it directly upon the house, not above twenty-five or thirty yards distant. The potatoes were removed, the fever subsided, and there were no additional cases.

A striking instance of fever originated in the village near the college. It began the latter part of August, 1831. Mr. W., a mechanic, had hired a house and rented some rooms to students whom he took as boarders; and had, in addition, a number who took their meals at his table but roomed elsewhere. Mr. W. himself was the first taken with fever, and in a few days his recovery appeared quite doubtful. I visited him from the 25th of August until the 6th of October, 1831. Two of the roomers were soon down, and ere long another, while several of those who roomed out were drooping, and being too sick to pursue their studies, left for their homes in the surrounding country. There were *thirteen* cases of fever in all from among those who ate at Mr. W.'s table, and one death of a student who went home with the fever upon him. I never learned that this fever was transferred by contagion.

After the occurrence of several cases, I commenced exploring the premises with a view to detect, if possible, a local origin of the malady. The house had not been built many years, and the rooms all looked fresh and cleanly. I went into the cellar. It had a floor of unplanned boards, which lay upon sleepers imbedded in the muddy bottom, and the space between the mud and the boards, for nearly the whole extent of the cellar, was occupied by water. I turned up one board after another, and found the surface which had been exposed to the wet so decayed and soft, that I could thrust the point of my finger some way into it. At one corner of the cellar there was an opening large enough to receive a common sized bucket, and the water seemed deeper there than elsewhere. This water was used, as I learned, for washing the potatoes that were to be eaten at their table. Believing that I had found evidence enough of vegetable decomposition, I made such a statement to the owner of the house as induced him to make a drain to his cellar. I cannot learn that there has been fever in that house but once since, and that was in 1842—there were then two cases, no death.

Many a college student who had fever in the fall term, seemed to have brought the seeds of the disease with him, for he had scarcely got settled at his room when the attack was made. Watchers, who professedly look to patients during the night, if they fall asleep and neglect ventilation for an hour or two are liable to imbibe the effluvia in too concentrated a form to escape. My eldest son watched one night with a young friend, Mr. F., and soon had an attack, and was sick two weeks. About this time there were several cases in the village. All had more or less delirium, one had double consciousness, and one or two, bloody discharges from the bowels.

Will it be questioned whether any of the foregoing cases had the marks of the typhoid or enteric fever of the present time? The scattered petechiæ upon the abdomen were not described till long after the occurrence of the cases at Chebacco and Hamilton, and even now it would not be safe to consider their presence as essential to the typhoid variety, as in many instances, during the whole course of the sickness, where typhoid prevails in a community, this feature is not present; but delirium, deafness, distorted vision, with now and then bloody discharges from the bowels, are leading features in the physiognomy.

R. D. MUSSEY.

*Boston, September 27, 1862.*

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OAKUM AS A SUBSTITUTE FOR LINT, IN GUNSHOT AND OTHER  
SUPPURATING WOUNDS.

By W. S. W. RUSCHENBERGER, M.D., U.S.N.

[Communicated for the Boston Medical and Surgical Journal.]

UNDER the above title, Lewis A. Sayre, M.D., Surgeon to the Bellevue Hospital, has published an article in the "*American Medical*



*Times*" for August 9, 1862, in which he states that he has "for many years past been in the habit of using picked oakum, in all cases of suppurating wounds, particularly in connection with opened joints, where the suppuration is excessive."

The reasons for this practice he briefly states. They are substantially, that one of the objects of lint applied to a suppurating wound, is to absorb the discharge; that lint, being composed partly or entirely of cotton, serves rather to retain than absorb the secretions, and therefore we are to infer that it is not well adapted to the purpose for which it is employed in such cases.

To show that lint has little or no absorbing power, he alleges that a bale of cotton immersed in the river for a month or longer will be found perfectly dry in the centre, thus proving that it will not absorb moisture. "So," he says, "when [cotton? is] placed over a suppurating wound and left some hours, it will be found perfectly dry except at the point of contact; acting, in fact, like a bung in a barrel, or a cork in a bottle—to *prevent* the escape of the pus—which necessarily burrows in different directions, thus forming extensive abscesses, and adding greatly to the danger of the patient; and when removed, the pus will gush out in great quantities. Now, if you place picked oakum over the same wounds, you will find, after the same number of hours, that the oakum is perfectly saturated with pus, and the wound itself perfectly dry and clean—the oakum acting like a syphon, and discharging the contents of the abscess by capillary attraction."

It is not perceived that there is any very striking analogy between lint, whether composed entirely or partly of cotton, and a bale of cotton, or free unmanufactured cotton. If the argument proves anything in the premises, it is, that the capillarity of cotton in bale is much less than that of loose oakum, but it does not prove that the capillarity of lint is inferior to that of oakum. It may not be out of place to remind the reader that capillarity depends more upon the form or arrangement of matter than upon the matter itself; although the capillarity of cotton is comparatively small, we know it is very considerable in lamp and candle wick, and other articles or tissues made of cotton.

"In gunshot wounds which go through and through a limb, particularly if made with a 'Minié ball,' the whirl or screw of the ball entangles in its thread the muscular fibres and cellular tissue, and separates them from their attachments for a long distance from the real track of the ball itself." Dr. Sayre, "in all such cases where no blood-vessels prevent it," passes an eyed probe through the wound and draws "through it a few fibres of the oakum or tarred rope, which keeps it perfectly free, and the tar is a very excellent antiseptic and removes all unpleasant odor."

How far Dr. Sayre's practice of treating perforating gunshot wounds with "tarred rope" setons may be followed, we may not conjecture, but, admitting the antiseptic properties of tar, we per-

ceive no cogent reason for its adoption. As a general rule the presence of foreign substances in wounds of any kind does not accelerate their healing.

It may be fairly inferred that, in the opinion of Dr. Sayre, lint possesses the same degree of capillary force as cotton, either free or strongly compressed in a bale, and that oakum has much greater capillary power than either cotton or lint, and for this reason he suggests that oakum should be substituted in the place of lint, not in all cases or under all circumstances, but only in gunshot and other suppurating wounds.

Some may ask, what is oakum?

Hemp is spun first into yarns which are imbued with about fifteen per cent. of tar, at a high temperature, and then these yarns are laid or twisted into rope. The tar is applied for the purpose of diminishing as far as possible the capillary force of the rope, and, by thus excluding the moisture to which it is constantly exposed, of retarding its decay. But in spite of the presence of the tar, rope is found to lose its tenacity or strength in the course of from one to ten years, according to the uses to which it may be applied, and being no longer serviceable as rope, it is cut up, and shredded and converted into oakum, which is used for caulking or filling all seams or joints in ships, for the purpose of excluding moisture.

Tow is the refuse or scrapings of hemp or flax.

In order to obtain an idea of the comparative absorbent power or capillary force of oakum, cotton, lint and tow, small parcels of these articles, of ascertained weight and dimensions, were gently placed on the surface of water in a basin, and carefully weighed again after removal. The weight of water absorbed by each, thus ascertained, is stated in the following table:—

	Weight.	Dimensions.	Time in contact with water.	Weight of water absorbed.
Cotton (wool) . .	40 grs.	3 in. diam.	1 hour 10 m.	8 grs. = 1.5
Oakum . . . .	"	2½ " "	do. do.	10 " = 4
Tow (from hemp)	"	2½ " "	do. do.	250 " = 6.25 tms.
Coarse Lint (shoddy)	"	2½ " "	1 minute	280 " = 7 "
Scraped Lint . .	"	2½ " "	instantly	298 " = 7.45 "
Patent Lint . . .	"	1½ by 3 in.	4 minutes	299 " = 7.47 "

Forty grains of cotton submerged and slightly squeezed under water for a few seconds, was found to retain, without dripping, 270 grains; and an equal weight of oakum treated in the same manner, only 94 grains of water. The oakum retained little more than twice its weight, and the cotton nearly seven times its weight of water.

The inference from these experiments is that the capillary force of patent lint is nearly thirty times, and that of tow twenty-five times greater than oakum; and the capillary force of oakum is only

one fifth greater than that of cotton. Oakum absorbed one fourth, and cotton one fifth of its weight; but tow 6.25 times, coarse lint 7 times, scraped lint 7.45 times, and patent lint 7.47 times its weight of water.

If the property of capillarity alone is to determine the choice of tissue or substance for covering suppurating wounds, any description of lint or tow is to be preferred to oakum.

Tow has been long employed as an outside dressing or recipient of profuse discharges; and also as a swab in cleansing offensive suppurating wounds, where sponge was not sufficiently abundant to be expended in this way. The objection to tow is, that there are apt to be sharp or hard spiculæ adhering amongst its fibres, which give pain when brought against a sensitive surface; but this objection may be obviated by carefully selecting and carding the substance. A better substitute for sponge for cleansing purposes in surgery is cotton wool, which, saturated with soap suds, or simply with tepid water, and held in a dressing forceps, forms an admirably soft application that may be used where the finest sponge would be found by the patient rough and harsh. Indeed, considerations of cleanliness and of avoiding the diffusion of morbid matters from patient to patient, suggest that sponge used once as a detergent implement should not be used in the case of any other individual, and not too often on the same person. Cotton or tow forms a detergent implement so cheap that it may be renewed at every dressing, and ought to be substituted for sponge without any reference to cost, for cleansing purposes.

It is said that cotton or lint placed over a suppurating wound serves to *prevent* the escape of pus, and that oakum should be substituted. But, it seems that oakum as well as lint may block the way and hinder the flow of the escaping liquids, if not removed when saturated. Then why should a copiously discharging wound be enveloped in any capillary material; why not permit the discharge to flow without impediment of any kind? Any contrivance which would keep the wounded part at a normal temperature, whether in the form of oiled silk, or other tissue not readily permeated by moisture, or in shape of a simple veil or shield from flies in hot weather, might prove more salutary than the effects of a bunch or pledget of wiry oakum secured over it by bandage or otherwise.

Supposing that oakum possesses all the qualities claimed for it in the instances specified, it cannot be regarded as a substitute for patent lint, because there is often necessity for just such a pliant tissue to serve as the vehicle in the application of ointments to morbid surfaces—such as blisters, for example.

Substitutes are almost always defective expedients. Whether they are adopted from parsimony, poverty or other reason, they rarely satisfy the requirements they are employed to meet. The workman who uses implements in all respects adapted to his voca-

tion produces more perfect results than he who labors with a paucity of tools, and hence, driven to expedients, is compelled to require from his awl the work of a gimlet.

Oakum is, doubtless, applicable as a substitute to some ends. It may answer as an external dressing, a mere recipient of liquid discharges; but for such purpose, as it costs much more and has less capillarity, it is a poor substitute for tow. Its application to the uses to which patent lint is especially adapted could be suggested only where no soft tissue is procurable. Canton flannel would answer the place of patent lint better than oakum; but comparing their adaptability to the object in view, the propriety of substituting Canton flannel, at thirty-five cents the square yard, for patent lint, while this is procurable at forty cents, does not commend itself to notice.

#### AMPUTATIONS AND OTHER MAJOR OPERATIONS.

FROM an admirable letter by Dr. HENRY W. DAVIS, addressed, from the "Army of the Tennessee," to Dr. Stormont, Secretary of the Esculapian Society, and published in the *Chicago Medical Examiner*, we make the following extracts:—

"This is a heavy text, but I will try to be brief. Experience has taught me that however much good surgery may be taught, there is a good deal of bad, practised; and a vast amount of unnecessary mutilation. The first question is: What amount of injury will justify an operation? This is, of course, dependent on a thousand outside influences, which must be thrown on the balance for and against. On the field, where an operation is unavoidable, the *sooner the better*. If reaction is slow, *give chloroform*; relieve the pain; remove the effects of the shock; unloose the vital powers, which struggle hopelessly against an overwhelming injury; and then the sooner the system is relieved from the torn and lacerated limb, and a clean cut supplies its place, the better for the patient and the surgeon. *Primary operations are alone successful in saving life*, where it is life or limb, and they must be performed prior to, or during the stage of reaction. They must be performed on the field, before the removal of the patient, or the chances are lessened a thousand fold. There are what are called secondary operations. These are made up of the *removal of a limb* (after the stage of healthy reaction is passed), *and the death of the patient*. I will endeavor to make myself understood without being prolix.

"When a patient suffers from a compound injury made up of bruised and lacerated flesh and broken bone, without involving the loss of the important vessels, the rule is to *amputate*; the books say amputate; professors of surgery, who visit our battle fields with a score of students at their heels, say amputate; and the students at the professor's heels *do* amputate. It matters not to them whether

the wound is four hours or four days old, off goes the limb, and out goes the patient; for I challenge denial when I assert that ninety-nine of every hundred of those who were operated on during the *irritative* stage died. This irritative condition commences from twelve to forty-eight hours after the reception of the injury, and continues from seven to twenty days, or longer, according to circumstances; and there is no opportunity for the use of the knife during that period, be it long or short. Here, among these cases, conservative surgery finds its field of labor, and the conservative surgeon his element. The knife, for the removal of a limb, is foreign to his thoughts; but every energy is exercised, not only to save life, but to save the important member. He watches his patient closely; sustains his strength; guards against accidents; notes his pulse; and, finally, when the system has become accustomed to the injury, and manifests its regained power and equalized action, by the formation of healthy pus, he asks himself the question, 'How little can I venture to throw away?' and acts accordingly. Conservatism, *even in military surgery*, will stand the test; and no sooner is the *itch* for cutting allayed, by an overplus of work, than the most devoted tinkerer with the knife is more disposed to try to save a limb than acquire skill. It may be that I am reviewing only *two* of the *three* sides to the question, and am not judging impartially; but time will, I believe, bear me out fully in all important points.

"At Donelson, I worked for four days, in the rear of my division, most of the time dressing the wounds on the spot where the patient fell. During that fight, I dressed 118 wounds, involving many minor operations, and performed 16 capital operations. Not one of the operations performed on the field had an unfavorable termination, while of those where I was *compelled*, as a *dernier resort*, to use the knife two days after the battle or longer, *scarce one lived*. It is true the latter were few, but they sufficed to prove to me conclusively, that when the first opportunity has been lost, the second rarely or never presents itself: unless connected with some untoward circumstances, rendering extreme measures necessary. Your patient will die if you operate, and if he survives the shock, passes the irritative stage, aggravated by transportation, the conservative surgeon will always have sufficient faith in the skill of nature to help him save a limb, and with it a life.

"I will pass from Donelson to the post hospital at Savanna, where our worthy President found me with 1685 wounded soldiers, from the battle field of Shiloh. The surgery at this point was conservative through compulsion. Overwhelmed with the rush of patients, and being compelled to create something out of nothing, it was many days before I could give a thought to other than administrative duties belonging to my position. Among the assistants assigned me were only *two* who had any practical knowledge of surgery. On visiting the hospitals, and taking a general view of all the cases, I could only say, '*Wait, give them time.*' For eight or ten days after

the battle, I still said, 'Wait.' Many of the wounds were destructive in their character, and the knife was the only remedy; still I begged them to wait; because not a single case had yet recovered from the shock, or passed the irritative stage which followed. The pulse was rapid and feverish; the face flushed; the wound angry, and discharging a bloody serous fluid; the immediate and adjacent parts to the injury were sensitive to the touch, and the whole system controlled by it, and morbidly irritable. I was winning no enviable reputation fast; and yet, knowing this, I begged them to still wait. On the second Monday following the Sunday's fight, four amputations—one of the thigh, one of the leg, and two of the arm—were performed in a hospital, under the control of two surgeons from the East. On the next day, there were *three* funerals, and on Wednesday *one*. The four cases *died*. The surgeons were alarmed, as they had a right to be; and again I said '*wait*,' so far as the *rest* were concerned; and wait they did. There were causes operating on these cases, and against them, that I will briefly narrate. Many of the wounded were stricken down on Sunday, and lay on the field for many hours, until the lost ground was retaken. They were piled into ambulances, taken to the boat, and shipped to Savanna. Here they had shelter and food; but long before we could secure the comforts which are indispensable to the *amputating* room, the first *chance* had passed by, and the only hope was to await the second. From the twelfth to the fourteenth day, I commenced work; wine, tonics and good food had been doing their work, silently but surely; and I trust I may say, without egotism, that many a poor but gallant fellow is living to bless that word, *wait*. It was at this time that Dr. TenBrook dropped in, and put his shoulder to the wheel, with an energy and good will that lifted *me* out of the slough of despond, into which I was fast drifting, together with a couple of hospitals full of wounded. There were not many operations during his stay; but they were mainly of a character calculated to *illustrate* the subject in hand. There were some amputations of the arm, fore-arm, thigh, and leg. The patients, with but a single exception, had not suffered by the delay, and with that exception, they all recovered from the operation. There was a class of cases of greater interest, from the fact that the injuries primarily were such as to justify amputation; and had they been met at the proper time, with ordinary facilities, even the *conservative* would have been inclined to remove the injured limb. As it was, they slipped through the hands of the surgeon, until they were seen with a view to the performance of an operation which would save the limb without increasing the risk to the patient's life. With Dr. TenBrook the following operations were performed:—

"Lieut. S., gun-shot wound, fracturing the tibia for 5½ or six inches, breaking it into fragments. Twice had a *brace of Brigade-Surgeons* met to cut it off, and twice did I enter a protest; the second time, in a very unmistakable manner. The time was not yet for

operating, and amputation was *not* the operation. After extension was made sufficient to adjust the broken, but not comminuted fibula, and allowing time sufficient to allay the local and general irritability, an operation was performed, by which the removal of all the fragments of bone was effected, and the ends of the upper and lower fragments sawed off; under the influence of chloroform he bore the operation well. A simple fracture-box was applied, which allowed complete dressings; after a few weeks, he left for home, with a certain prospect of recovery, with a good, reliable, and useful leg.

"J. V. H., a private, was injured by a rifle ball, which shattered the ulna, for several inches just below the elbow-joint. The suppurative stage was fully established; his appetite good; and his spirits rather above par. It was one of those cases which might have been operated on a week previous, and which would not have suffered from a few days' delay. In company with Dr. TenBrook, we witnessed the operation, as performed by Dr. ———, the Surgeon-General from Wisconsin. The shattered fragments were removed; the ends of the shaft above and below clipped off; and the wound closed. In this case the capsular ligament was uninjured, and the integrity of the joint undisturbed. The recovery was rapid and complete. There were several cases similar to these, which Dr. TenBrook can give you in detail; and among them all, I do not know of a single case that terminated unfavorably.

"During the week following the departure of Dr. T., I was visited by Prof. Johnson, of Chicago, Lind University. Time had settled the fate and determined the character of many of the surgical cases in the hospitals, and as the weather was propitious, and all things forward, we put in a week of honest, earnest, and successful labor. Many important operations were performed, carrying the knife and saw through almost the entire range of military surgery. The amputations were few, and bore a small proportion to the aggregate. The question as to the advantages of the circular over the flap operation was fully discussed, and specimens of both exhibited; and notwithstanding Prof. Johnson is high authority with me, still I will have to see better recoveries and neater stumps than I have yet, ere I give up the neat, safe, and reliable stump, resulting from the circular operation. There were three resections of the humerus, for injuries to the shoulder-joint; all did well up to the time of my departure, and each would have justified *amputation* on the field. \*

\* \* \* \* Some of the ideas deduced from experience will not accord with the surgery of the wars of Napoleon or the Crimea. There is too much surgery practised, such as it is, and too many mutilations are justified by recognized authority. The surgical history of the army from the North-west is being, or will be, written; and the writer has a splendid theme to urge on his pen. It is to be hoped that the historian will be just and fearless, in the performance of his duty—not his task; and that the Department will never again commit the gross errors which have marked the campaign of 1861-2."



**Army Medical Intelligence.***To the Surgeon-General.*{ CARROLLTON, LOUISIANA,  
SEPT. 18, 1862.

DEAR SIR,—Since writing to you before, the only event breaking in upon our quiet routine is removing from Baton Rouge to this place.

We have now been here about three weeks, and begin to feel like old settlers. My regiment, as a whole, is slowly climbing up from out the slough of prostration, into which it was plunged by the Vicksburg swamp. But I find convalescence is slow and halting, the system in many cases seeming so thoroughly poisoned as to leave hardly vitality enough for recovery even after the fever is entirely checked. Hence, not a few of my poor fellows linger along for a while in a sort of doubtful, vacillating convalescence, now a little better and then losing again, until a little attack of diarrhœa or something of the kind tips the scale and they drop away suddenly. Very few exhibit that vigorous recuperative power so often seen in recovery from our New England typhoid fevers.

I occupy the Court House as a hospital, and as soon as I get the bedsteads, mattresses, &c. promised me by our new Medical Director, Dr. McCormick (who is taking hold of the work here with great energy and practical good sense), I shall feel more nearly satisfied with the accommodations and comforts I can give my sick than before since I came to this department.

My own health is much improved since I came to Carrollton, and I find the facilities for the study in my own person of the anatomy of the skeleton, are decreasing fast. The latest reminder of the swamp came in the form of a perfect specimen of periodical neuralgia in my right eye and brow, which for nearly a week rendered me unfit for anything during the forenoon. But thanks to that king of drugs, sulphate of quinine, I am now "all right." I have never been sick in bed really but one day, since I left Massachusetts, and then I got up at 5, P.M., and moved my hospital of one hundred and odd patients before the "clock tolled the hour for retiring." There have been many days, however, that had I been in old Haverhill, my favorite patients would have called in vain for my services.

Two of my wounded officers, Lieutenants Gardner and Tenney, have gone home, so you may quite likely see them. Both of them were doing finely when they left. Lieutenant Howe, with both his thighs shot through, one femur as well as one rib being fractured, has done most magnificently. The wounds from the balls are nearly healed, and the fracture of the femur is uniting splendidly. The best thing I did after the battle of Baton Rouge, was to do nothing in this case—and I took the responsibility with not a little fear and trembling. But after I had decided not to operate at first, I was determined my ideas should have a fair trial, so I kept him with me after all my other wounded had gone. I hope soon he will also go home to his friends until again able for active service.

A month or so ago, I had quite serious ideas of resigning next month, but according to the latest news it does not seem at all appropriate for any one who can be of any service to the Union cause to give back now. No, Doctor, it would seem too much like deserting a friend in distress to resign at present, if I am able to do my duty.

The papers have told of the appointment of two second Assistant-

Surgeons for this regiment, so I judge there must have been some mistake in the first, and I haven't yet seen the second. When he comes he will probably be at once detached from the regiment, at some fort or hospital, as there is quite a demand for surgeons for such service. Dr. Holt and I are not now overworked. He is at the camp, which is five miles away, and attends to the sick in quarters (about 60 unfit for duty), while I take charge of the 120 in hospital. As the numbers indicate, I take all who are much ill into the hospital. I think they do better so. I remain, with the highest respect,

Yours most sincerely,

S. K. TOWLE,

Surgeon 30th Regiment Mass. Vols.

FREDERICK, MARYLAND, }

SEPT. 13, 1862. }

To the Surgeon-General.

DEAR SIR,—I do not remember having written to you since the regiment was at Dawfuskie Island in South Carolina, although from time to time I promised myself the pleasure of doing so. The constant excuse of "want of time to write as I wished," applied all along—for I attempted on several different occasions to write you a letter, but met with interruption each time. The same excuse would apply equally well even now, for we are now lying in a field within hearing of cannonading, and momentarily expecting orders—but just liberated from captivity, I feel that I must account for myself in some way, and will make use of the inconveniences of my position only as an apology for using a lead pencil instead of ink, which cannot be had at this moment.

After leaving Dawfuskie Island, towards the last part of May, the regiment touched at Hilton head, and thence went to James Island, where, after a month of "life in swampy land," enlivened by frequent skirmishes, and rendered memorable by the battle of June 16th, in which our attempt to take by assault a strong earthwork of whose position, strength and surroundings we knew nothing, resulted in the useless slaughter of many men, we eventually learned that Charleston could not be entered just at that time; and after having been tossed about from one transport vessel to another for some time, the need of troops in General McClellan's army, occasioned by the famous week's fighting before Richmond, induced our transfer from Hilton head to Newport News, where we remained from the 16th of July to August 4th. On the 4th August, sailing, nobody knew whither, we left Newport News, and, landing at Acquia Creek went to Fredericksburg by railroad, but it was evident that we would not be permitted to rest there; and after almost a week spent in continually changing camp about Fredericksburg, and "*cutting down*" what little baggage remained after the "*cutting down*" we had been obliged to submit to at Newport News, we again started on a mysterious march, and reached Culpepper some days after the battle of Cedar Mountain. At Newport News we had received orders to leave behind, "in store," all baggage that was not indispensably necessary, and at Fredericksburg the orders for the cutting down of the baggage were so peremptory that the officers were obliged to store their personal effects, excepting only what they could carry themselves. And as the insufficiency of transportation from Hilton head to Newport News had robbed me of the ambulance wagons and transport wagons received from the State, I was obliged to look to the Quartermaster for the transportation of

what medical supplies I deemed indispensably necessary, storing what could not be carried. We started on our journey without having a single ambulance wagon for the whole division.

Our stay in the neighborhood of Culpepper was not of long duration. The men were foot-sore and fatigued, but they were destined to have no rest yet, and their forced march to Culpepper was merely a precursor of another forced march backward again—for at midnight of the 18th ult., a sudden "skedaddle" was made towards the forts of the Rappahannock, and indeed ever since our leaving Fredericksburg we have been on the march, alternately skedaddling and pursuing.

About noon of the 26th August, we reached, in the course of our rambles, Warrenton Station. On the following morning it was ascertained that the Confederates were in our rear, that they had burned bridges on the railroad, had captured and destroyed a very long train of heavily laden cars, and we set out forthwith for Manassas.

*On the Potomac, Sept. 20, 1862.*—My attempt to finish a letter on the 13th, was, as you will perceive, a failure. But lest I might have to postpone a letter to an indefinite period, should I wait for an opportunity to finish one at a single sitting, I will take the liberty of finishing it by instalments. "Secesh" is now across the river—a portion of our troops have crossed after them, and we are now supporting a battery which at this moment is banging away from the Maryland side.

In what I wrote on the 13th I had commenced the journey from Warrenton Station to Bull Run. On the 29th we were in the field—on the 30th we opened the fight, and on the evening of the 30th I was a prisoner, surrounded with dead and dying, and wondering that I was not one of the number; for apart from the dangers on the field itself, where a proper attention to duty on that day required that I should be exposed to the shot and shell as much as others, the first intimation I had of our being "surrounded" at the place to which I had eventually got the wounded (near a house), was a volley of musquetry poured into our midst, and the dead bodies of many who a few moments before were but slightly wounded, testified to the effects of it. From this time to the time when we eventually succeeded in obtaining transportation for the wounded to Washington, we had what may well be termed "hard times." During the first few days we could obtain neither food nor dressings. We had nobody to bring wood or water for the wounded, or give them proper attendance. And although generally the Confederates were liberal of kind words, it seems they had nothing else to give us.

After the first few days, however, Dr. Coolidge (or Couldridge, I know not which) a Medical Inspector, U.S.A., arrived on the field, and was surprised at the state of things as he found them, so different from what he had been led to expect, from what had been told him. And to his untiring efforts are we indebted for having been able to get away even as early as we did, for he took hold "with a will," ignored *red tape* altogether, and in the most self-sacrificing manner devoted himself wholly and solely to the relief of the hundreds who were perishing from what seemed to be the neglect of government. Food and medicines in abundance were soon on hand, and he thought not of rest until he had succeeded in removing within our own lines every man that could bear transportation.

Much is due to him for the part he performed, and I trust his merit

may be rewarded. While on the field, during the battle, I had taken off my coat so as to be unimpeded in attending to the wounded, and while removing them afterwards, when obliged to shift position, I forgot all about it, never thinking of either coat, horse or blankets until night, when I found myself in my shirt-sleeves, without any means of keeping myself warm through the night; and it was thus that I spent the whole of my captivity.

On the 8th inst. I succeeded in obtaining ambulance wagons enough to transport what wounded remained at the building in which I was principally engaged, towards Washington, and travelling through the night, we reached Fairfax Seminary Hospital, near Alexandria, about 2, A.M., of the 9th. Learning where the regiment was, I joined it at once, and was delighted with the sight of many more friends than I supposed had escaped from the slaughter of the 30th ult.

On the Monday after the battle of Bull Run No. 2, the regiment was again engaged at Chantilly, where it lost heavily, but I of course was not there, and the knowledge that Dr. Snow, too, had been taken prisoner, which I learned on the 2d or 3d day after the battle, made me the more anxious to rejoin the regiment as soon as possible. Dr. Snow was enabled to join the regiment a few days before I could. Previously to my leaving the battle field for Alexandria, a Pennsylvania regiment, the 139th, arrived for the purpose of burying the dead. The bodies lay in heaps in the woods, and met one at almost every step, and the air was filled with the smell of putrefying bodies; but of all who lay there (the Confederates carried off and buried their own) I did not see one whose pockets had not been picked or which had not been robbed of its shoes.

When I joined the regiment it was on the march towards Frederick City, and every day since it has either been in a fight or expecting one. At the battle of South Mountain we had but few men wounded. On the 17th, the killed and wounded amounted to 42. Since then we have lost none.

Dr. Snow did not feel well when we were about to pass through Sharpsburg, and he has therefore been left behind in charge of those who were wounded in the battle near that town, and I am now alone. Dr. Snow has ever attended to his duty well, and deserves honorable mention; but I feel it particularly incumbent upon me to speak of the hospital Steward, Dr. John C. Barrington. While Dr. Snow and I were captives at Bull Run, the whole charge of the regiment devolved upon him. During the battle at Chantilly he attended to the wounded. During the intervening period previously to our joining the regiment, he was its only reliance, and I consider myself and the regiment fortunate in having secured the services of such a man.

The fact that at any moment orders may start us off again, as well as the fact that this letter has already, in spite of my attempt at condensation, become quite a lengthy one, will prevent me from extending it any farther.

It would be useless for me to attempt to give a list of the killed and wounded, as for much of the time I was not with the regiment, and should therefore have to send a list for which I could not vouch; while, again, the regiment is in such a bad condition from want of officers, that it is difficult to determine whether the "missing" became missing in battle, or straggled off to avoid battle.

We have neither colonel, lieutenant-colonel, nor major. *Three*

companies have *no commissioned* officers—*four* have only *one* each, and the other *three, two* each. The regiment is therefore in a very bad state, and unless the Governor will furnish us with a good head as the commencement of a re-organization, I fear the regiment will become wholly demoralized. However, trusting that all may yet be well, I close with respect.

P. A. O'CONNELL,  
Surgeon 28th Mass. Regiment.

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## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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BOSTON: THURSDAY, OCTOBER 9, 1862.

ABUSE OF ARMY AMBULANCES.—In the interesting communication of Dr. Bowditch, on the subject of the want of system in the ambulance arrangements of the United States Army, published by us two weeks since, several details of the recklessness of the drivers, as mentioned by him at the meeting of the Society for Medical Improvement, were omitted. In our opinion these facts should be known, as furnishing additional evidence of the need of thorough reform in this department. Dr. Bowditch particularly dwelt upon the malicious pleasure which the drunken drivers took in doing all the damage they could to the valuable vehicles entrusted to them, by the most unnecessary collisions. One special source of amusement to them was to try to drive the pole of the ambulance into the back of the one in front, and it was a particularly gratifying evidence of skill, if the driver succeeded in striking the head of the cask placed beneath the seats and projecting slightly at the back of the vehicle, and intended to hold water for the use of the wounded. This triumphant tilt was run by the man in charge of the ambulance in which Dr. Bowditch was riding, with the successful result of knocking it from its attachments into the road, where it was left, as none of the men would take the trouble to replace it. We say casks *intended* to hold water. In the present instance, it happened that not one in the whole train would do this; they had all been allowed to dry until they were as leaky as so many sieves; so that their loss was not a matter of such moment as it might have been. Mentioning the circumstance a few days since to a friend who had been in the army, he remarked, that he never saw an ambulance cask yet that *would* hold water.

Dr. Bowditch also referred to the extreme danger, incurred by the sleepy and drunken drivers, of running their vehicles off the precipitous banks on either side of the road, and said that the leader of the train informed him that, a short time before, he barely had time to turn aside the horses attached to an ambulance, full of wounded, from the brink of a precipice twenty feet high, over which the whole would have gone the next moment. The driver was asleep! Truly who can doubt the need of a thorough reform of such outrageous abuses?

Thus much had we written, when we received the following communication from Dr. Bowditch, to which we gladly give place:—

It is painful, yet it ought not to surprise us, to see how many mistakes have necessarily arisen, during this terrible rebellion, owing, first, to the utter disbelief on the part of the North in the really revolutionary views of the Southern leaders; second, to our own igno-

rance of the arts of war, and of the means of alleviating the sufferings incident thereto; and third, to the fact that, in very many instances, we still endeavor to manage an army of more than half a million of men by rules of war established for a few thousands. In nothing, perhaps, have we suffered more, from the last two causes, than in the whole arrangements for the transportation and care of the sick and wounded on and from the battle-field. It would, *a priori*, seem natural that the first thought of a truly paternal government, after having made arrangements to strike a decisive blow against an enemy, would be to make most ample provision to alleviate the sufferings of those of its children who would necessarily be doomed to endure much, even under the best system that could be devised. No *extra* suffering, and every alleviation of absolute misery, should be the watchword on such an occasion. I regret extremely to feel that, judged by this rule, our government has heretofore totally failed in one department, at least, of its service, viz., the ambulance system, or no system, as it may more properly be called.

The extraordinary statements by Dr. Coolidge, Medical Director at Centreville, that the drivers of the ambulances broke into the hospital stores, drank the liquors and would not help the wounded until whiskey was given; my own account (see this JOURNAL, Sept. 25) of the abominable misdeeds of these same or similar miscreants, during our excursion to relieve the starving and wounded at Chantilly, near Centreville; and finally, numerous individual statements (*New York Times* and also *Medical Times*), confirmatory of the same fact of gross misconduct, and of the essentially degraded character of most of these drivers; all these things are my reason for bringing the subject again before the readers of the JOURNAL. *Some change must be effected.* I am thankful to see that correspondents in different journals in this city and New York, are discussing various plans, and as the great object we now ought to have in view is to have *some* plan, instead of *chaos*, as at present, I write the following brief abstract of what foreign governments and our own have done in the premises, and will finish with giving what I know to be the carefully thought-out suggestions of the present humane and able Surgeon-General Hammond.

On the 2d of April, 1855—only six years ago—Jefferson Davis issued his instructions to Majors Delafield and Mordecai, and Capt. G. B. McClellan, to visit Europe for the purpose of learning everything possible, relative to modern systems of warfare. The Crimean war was then in full operation, and Sebastopol was besieged. Every subject connected with the carrying on of war was carefully suggested for investigation in the instructions given to the Committee. One item among them was as follows:—"The kind of ambulances or other means used for transporting the sick and wounded."

Capt. (now United States Major-General) McClellan, makes no allusion to the subject in his "Armies of Europe." Of Major Mordecai's opinion, I know nothing. But the following, from Major Delafield's report (*Senate Document*, June, 1860), becomes important in considering the question of what we should do, in the present emergency.

Major D. says, page 68, that "never before was so much attention paid to this branch of the military service" as during this celebrated siege, and in front of Sebastopol. And in this connection he pays a high tribute to that remarkable woman, Florence Nightingale, "as the foundation of power, from which all the new arrangements and ap-

pliances emanated." It seems that several kinds of *carriages* were used among the allied and Russian armies, according to the ideas of those having the control of each. The smaller ones, those capable of passing and repassing anywhere, were the best. Wrought-iron *chairs* or *litters*, two hung like *pack-saddles* upon mules' backs, were of great service. One hundred and sixteen chairs or litters were in use at the bloody battle of Inkermann, and sufficed to transport all the men in a very short time after the action terminated; "proving," says Major D., "that they combined greater advantages than any previous arrangement."

The English organized a "brigade for hospital conveyance"—(*Report*, p. 75), which was new in *personnel* and *materiel*. Its train consisted of twenty carts, five store wagons, one forge cart, and one cart for stoves and portable forge." The carts were for two, the wagons for four horses. The whole were for twelve regiments. The plan was contrived so that where a gun could go, a carriage could follow.

The following extract (p. 76), I desire to bring to the notice of the reader. Jefferson Davis undoubtedly took counsel from the whole of this valuable report, in plotting his treason. Our Government seem to have lost sight of its valuable suggestions, in one instance, at least, as is now well proved:—"The whole of this train was under the *Staff-Surgeon* of the division; none of the wagons, carts or drivers being subject to the orders of any other department, except with the authority of the General of Division, who best knew when to break up or sacrifice any part of his entire means of transport. *This provision is worthy of our attention. The details and requirements of this part of the service should not constitute a part of the general transport service of the army, as heretofore has been the case in our service. No person can so well preserve the efficiency of the surgical and medical apparatus, as he who best knows its uses.*"

The italics are my own, and I would simply add that there never was a more striking exemplification of the truth of these remarks by Major Delafield, than what I saw, in striking contrast to them, during my recent ambulance journey to Centreville. Among other things, at that time, I observed that of the small casks intended for water, and two of which were prepared for each wagon, not one seemed to contain water; and I was informed by the army surgeon in command, that they all leaked! What does the Quartermaster care for them? The absolute need of water for the thirsty, wounded or dying soldiers, would never be dreamed of by that officer. It is the surgeon alone who sees, and as it were feels, the agony the wounded soldier suffers, when deprived of this luxury.

The *personnel* of this English train consists of one Sergeant Major, four other non-commissioned officers, and sixty-nine drivers—total, seventy-four persons to twenty-seven carriages, or scarcely three to each carriage; "which," adds Major D. (p. 76), "gives the smallest admissible number of supernumerary drivers." All the nations of Europe "have their own ambulance and hospital store wagons, each possessing its peculiar merit, adapting them to their respective armies."

In addition to these, the *Staff Surgeon*, while on the march, has a mule with "capital instruments" attached to his immediate service.

What ought we to do? Certainly we ought to adopt all the good which past experience has shown to exist in any of these ambulance corps, or modify them to suit the peculiar conditions of our army.



A plan has been devised by the Surgeon-General of the United States Army, and months ago was urged upon Secretary Stanton, and declined by him and General Halleck. Since the terrible sufferings, lately endured by our soldiers, and foretold in a great degree by Surgeon Hammond, that gentleman has again urged on the government the necessity of some action. The government still delays, or if it has acted officially, it is only within the past week or two, and, so far as my knowledge extends, nothing has yet been publicly done in the matter.

I well know that reports come to us through the public prints, that General McClellan is doing something about it. I have, from official sources, learned that the plans of General McClellan are, as it is thought, "insufficient. 1st, Because the drivers, &c. are simply soldiers detached for the purpose; and, 2d, the plan is not sufficiently comprehensive."

What the Surgeon-General wants, "is a corps composed of men especially enlisted for Hospital and Ambulance service, with officers commissioned purposely to command them, and who shall have the entire charge, under the medical officers, of the ambulance wagons, transport-carts, &c., and all the many departments of hospitals; a corps upon the basis of two men to each company of one hundred men, a hospital Captain, two hospital Lieutenants, and five hospital Sergeants, to be drilled, uniformed and equipped according to certain regulations. The whole should be commanded by a Hospital Commander. This is substantially the plan followed in the European armies."

Will not our government allow this, or some other beneficent plan, to be followed out?

HENRY I. BOWDITCH.

INSPECTION OF GENERAL HOSPITALS OF THE ARMY.—The following letter has been addressed to certain of our most distinguished surgeons throughout the country.

OFFICE OF THE U. S. SANITARY COMMISSION, }  
498 BROADWAY, NEW YORK, September 24, 1862. }

SIR,—The Sanitary Commission propose to commence on the — of October, a special inspection of the General Hospitals of the Army.

These are forty-seven in number, in the District of Columbia alone, and perhaps as many more in all other parts of the country; they contain, at this time, not less than 50,000 sick and wounded.

As this proposed service is additional to the duties of this nature heretofore performed by the Commission, and is for a higher purpose, they wish to secure the assistance of the best medical and surgical ability in the country for the work—as none but men of established position and character are able to carry the moral weight and influence with the Army Surgeons, essential to the practical success of this effort to secure the highest standard of professional excellence in the management of Military Hospitals.

The Commission propose to keep six inspectors constantly employed east and west, and to accept the services of such as can serve not less than a fortnight, whilst they ask no service for more than one month. The most they can offer the profession in the way of remuneration is \$250 per month.

The scheme of this inspection is for the six months ending May 1st, 1863.

You are respectfully requested to designate before the — October, when the books will close, the period, if any, for which you are willing to serve, and the precise date when you can most conveniently render the service. The Commission will, however, consider it a special favor if you will allow them to designate the time when your services will be most acceptable. If you can serve for two terms of a fortnight each, at an interval of three months, please to state. For the Western hospitals a month's service would be preferred.

The Commission is anxious that this duty shall be undertaken with the earnest and unselfish purpose of securing for our sick and wounded soldiers thorough and able hospital treatment, by the detection and removal of all defects in administration or professional care susceptible of remedy or improvement.

Full instructions as to the form of the report required will be furnished at the proper time.

By order of the Executive Committee.

Very respectfully, your obedient servants,

W. H. VAN BUREN, M.D.

C. R. AGNEW, M.D.

WOLCOTT GIBBS, M.D.

Dr. Henry G. Clark, of this city, has been appointed Chief of the Corps of Inspectors. It is a gratifying fact, that of the seventy-two gentlemen, invited to serve on this Commission, thirty are residents of New England. Drs. Clark, Bowditch and Ellis, left for Washington on Tuesday last, to begin at once the work of inspection.

**NEW YORK OPHTHALMIC HOSPITAL.**—The report of the surgeons of this Institution, for the years 1860–61, has just been published. In connection with the report, is a catalogue of the students of the New York Ophthalmic School from 1852 to 1862, and also the Anniversary Address, at the close of the last session, by Dr. James L. Kiernan. Whole number of cases treated during the two years, to December 31, 1861, 1937, including 75 remaining under treatment Jan. 1, 1860.

The Annual Meeting of the Vermont Medical Society will be holden at Montpelier, on the 15th and 16th days of October.

Dr. EDWARD JARVIS, of Dorchester, has been detailed by the Surgeon-General to visit the various Camps in the State, and report on their sanitary condition.

In the London *Medical Times and Gazette* of Aug. 30th, extracts are given from a new Manual of Military Surgery, by Dr. J. J. Chisolm, of Charleston, S. C.

#### VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, OCTOBER 4th, 1862.

##### DEATHS.

	Males.	Females	Total.
Deaths during the week, . . . . .	50	43	93
Average Mortality of the corresponding weeks of the ten years, 1851–1861,	44.1	42.5	86.6
Average corrected to increased population, . . . . .	..	..	95.52
Deaths of persons above 90, . . . . .	..	0	0

##### Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
13	13	2	2	2	0	3	2	1

COMMUNICATIONS RECEIVED.—Report of Cases in the Presbyterian Church Hospital, Georgetown, D. C.

DIED,—At East Boston, on the 3d inst., Dr. Rufus L. Hinckley, aged 45 years.

DEATHS IN BOSTON for the week ending Saturday noon, October 4th, 93. Males, 50—Females, 43. Accident, 2—apoplexy, 1—asthma, 1—inflammation of the bowels, 2—congestion of the brain, 2—disease of the brain, 2—bronchitis, 1—cancer, 1—cholera infantum, 13—consumption, 13—convulsions, 2—croup, 2—debility, 1—diarrhoea, 4—diphtheria, 1—dropsy, 5—dropsy of the brain, 3—drowned, 1—dysentery, 3—scarlet fever, 2—typhoid fever, 2—gastritis, 3—disease of the heart, 3—homicide, 2—infantile disease, 3—intemperance, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 2—marasmus, 2—measles, 1—paralysis, 2—scrofula, 1—suicide, 1—unknown, 6.

Under 5 years of age, 44—between 5 and 20 years, 6—between 20 and 40 years, 15—between 40 and 60 years, 22—above 60 years, 6. Born in the United States, 70—Ireland, 17—other places, 6.